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Validation Study of School Inadaptability Questionnaire

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Abstract

Purpose of study is to validate the School Inadaptability Questionnaire (SIQ, Clinciu, 2003) against an acknowledged psychometric instrument, namely NEO PI-R of Costa and McCrae. Secondly I want to point out more specifically the structure of the two factors measured through SIQ and to conceive two predictive hierarchic models which should cover the criterion variance as much as possible. Study' conclusion is that high school adjustment is well described at the crossroads of two factors. One implies unloading negative school emotions towards the inner side (School Neuroticism) while the other one implies unloading them towards the outer side (Rebelliousness).

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1. Introduction

School education covers the most important formative sequence in a person's life, lasting the entire childhood and adolescence. School brings constant pressure to bear upon students, the effects having to be analysed in terms of costs and benefits. The agreement is quasi-unanimous regarding the benefits which consist in personality structures, intellectual abilities and competencies that are necessary for social integration. But the costs, especially the psychological ones, are insufficiently analysed. Educational pressure brought by school in the formative process can be consistent with or out of line with each of its students. Hence there result symptoms specific to academic stress

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(Gadzella, Madsen & Stacks, 1998) comprising anxiety, depression, hostility-aggressiveness, low efficiency and self-esteem, poor integration of self, doubled by rich organic symptoms. Therefore it is not surprising that Eysenck & Eysenck (1975) include in EPQ-Junior a multitude of items which are defining to Neuroticism, with direct reference to the student's activity, namely school learning. It is surprising that no author of instruments aiming at school adapting has wholly particularized this personality super-factor in school context. The explanation of this fact can be offered by Strelau (2000, p. 74): "In respect with to Neuroticism the relation to educational achievement is more equivocal, which suggests that the temperamental dimensions may influence learning efficiency depending on the teaching strategy used." Eysenck & Eysenck (1975) conclude that in middle school introverts show superior academic attainment to extraverts. If we analyse the structure of Eysenck's concept of Neuroticism: anxiety, depression, guilt feelings, low self-esteem, and tension, we notice that all its subcomponents are frequently evoked as elements associated to school inadaptability. Thus analysing the relation between personality and ability, Austin, Deary, Whiteman, Fowkes, Pedersen, Rabbitt, Bent, & McInnes (2002) clearly indicate that Neuroticism acts as a mediator of *g* on the outcome. In a study concerning social anxiety, Erath, Flanagan & Bierman (2007) reveal the correlations linking social anxiety with decreased peer-acceptance and increased peer victimization. Among the six big reasons of low achievement Reiss (2009) shows that a Neuroticism component is fear of failure (high need for acceptance), and another one is combativeness (high need for vengeance).

As Boenke (2008) shows, in adolescence, besides the school-pressure there is also a peer-pressure given in various degrees by the other students on each other student. It has "... a negative impact on school performance of students who are the victims of such verbal aggression" (p. 150). On the same lines Bryant, Schulenberg, Bachman, O'Malley, & Johnston (2000) point out the links existing between academic achievement, school misbehaviour and cigarette use from 8th to 12th grade. The role of negative emotions in producing aggressive behaviours during the first school cycle is also emphasized by Bohnert, Crnic & Lim (2003). They show that children "... with low ability to identify the causes of their negative emotions (emotional competence) exhibit a higher level of aggressive behaviour" (p. 79). The issue of school adaptability can be spoken about in terms of gender identity as well (masculine identity, Jackson, 1998), of academic stress (Gadzella, Masten & Stacks, 1998) or of instruments intended to academic environment adaptability (SACQ of Baker & Syrik, 1999).

Summarizing, the double pressure on students – the educational-formative one and the peers' one – can be unloaded in an unapparent way towards the student's inside, having as effects symptoms that are typical to Neuroticism (anxiety, depression, self-aggressiveness, impulsivity and vulnerability to stress) which lead to school neuroticism. Unloading can also be open and an outside one, concretized in hostile-aggressive, destructive, impulsive behaviours, namely through rebelliousness. If the former type of unloading is more characteristic to feminine gender as a group, the latter seems to be typical to boys, marking an open conflict between school values and the values the adolescents assume. Rebelliousness is emphasized by the peers' pressure which is the major reason of dropout with long-term important consequences. The purpose of this study was to validate School Inadaptability Questionnaire against a known instrument, NEO PI-R of Costa and McCrae (1992, 2010). Secondly we wanted to outline the inner structure of the two factors more clearly and to conceive hierarchical models which should predict the two components of SIQ as better as possible.

2. Materials and methods

2.1. Sample

The participants were 132 students (50 boys and 82 girls) from two 9th form classes and two 11th form classes of three high schools in Brasov. One of them is highly socially recognized, the other two have a medium recognition. Out of the three of them, one is technological; one is sciences type and one humanities high school. The girls' supra-representation in the sample is a current phenomenon for this school level. The heterogeneity conferred by including three types of high school in the sample increases the power of research generalisation despite its relatively reduced size.

2.2. Instruments and measures

The basic instrument we used was the one we wanted validated, namely School Inadaptability Questionnaire (SIQ), which had also gone through similar steps in the initial stage of its conceiving (Clinciu, 2003) against Eysenck's EPQ-Junior. SIQ measures two relatively independent homogeneous dimensions: School Neuroticism (43 items, alpha Cronbach .90) and Rebelliousness (24 items, alpha Cronbach .80). As a Big Five-type instrument we used NEO PI-R which measures five super-factors (Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness), all of them being defined by six facets each. The list of used instruments and measures also comprises a questionnaire of factual data, General Point Averages (GPA) and main subjects' marks taken from official school documents.

3. Results

A first strategy of validating SIQ was to correlate its subscales and total score with GPA and the main subjects' marks, separately for the two genders and total then. In Table 1 we can notice that theses correlations, though not very big, are significant at high thresholds. Under the circumstances when intelligence, the most important predictor of school success at the high school age, correlates only at the level of $r = .46$ with GPA, of $r = .36$ with the Romanian Language and of $r = .25$ with Mathematics, correlations corresponding SIQ (of $r = -.38$, $r = -.36$, $r = -.29$) are totally satisfactory. Out of the same table we can notice that the predictive force of School Neuroticism is much better than that of Rebelliousness, both for boys and for girls. The correlations of SIQ components with the Romanian Language are bigger than the ones for Mathematics.

Table1. Correlations between School Neuroticism, Rebelliousness and SIQ total with school GPA for boys, girls and total.

	Gender	School Neuroticism	Rebelliousness	SIC Total
General Point Average (GPA)	Boys	-.25*	-.04	-.21*
	Girls	-.34**	-.13	-.35**
	B + G	-.33**	-.28**	-.38**
Romanian Language	Boys	-.28*	.08	-.17
	Girls	-.33**	-.05	-.31**
	B + G	-.34**	.21*	-.36**
Mathematics	Boys	.00	.06	.02
	Girls	-.35**	-.02	-.31**
	B + G	-.27**	-.17*	-.29**

* $p < .05$ ** $p < .01$

By comparison, in this study Neuroticism and its components from NEO PI-R are insignificant when associated with school performances, the only important predictor of GPA for the sample that reunites boys and girls being Openness ($r = .25$, $p < .05$). For boys there was a second super-factor as well, Extraversion, significantly correlated with GPA ($r = .32$, $p < .05$). This leads to the same conclusion as the one resulting in the initial stage of test validation against the Neuroticism construct in Eysenck's PEN model, where the questionnaire newly conceived for school context shows a significantly bigger predictive force of school success.

From the Table 2 there results that both dimensions of SIQ have a complex structure. School Neuroticism is highly associated with Neuroticism NEO PI-R super-factor, where saturation is stronger for girls (.62 for girls and only .43 for boys).

In the same time this factor of School Inadaptability is more complex defined from factorial point of view with girls, being strongly associated with Conscientiousness (-.40) and Agreeableness (-.28). On the other side, Rebelliousness has a more complex structural definition for boys, this being with them strongly saturated in Agreeableness (-.55), Conscientiousness (-.55) and Extraversion (.27). The reunited scores for the two SIQ factors are saturated in a ratio that is close to only three NEO PI-R super-factors, Extraversion and Conscientiousness having a relatively modest importance in their defining. The gender differences that were previously given evidence of maintain for SIQ total as well, where girls produce a clearer factorial definition for School Neuroticism.

Table 2. Correlations between School Neuroticism, Rebelliousness and SIQ total with the five NEO PI-R super-factors for boys, girls and total.

NEO PI-R Super-factor	Gender	School Neuroticism	Rebelliousness	SIQ total
Neuroticism	Boys	.43**	-.20	.22
	Girls	.62**	-.07	.51**
	B + G	.58**	-.14	.36**
Extraversion	Boys	-.05	.27*	.10
	Girls	-.17	.21	-.07
	B + G	-.13	.19*	-.02
Openness	Boys	-.26	.02	-.18
	Girls	-.14	.04	-.10
	B + G	-.21*	-.08	-.20
Agreeableness	Boys	-.01	-.55**	-.28*
	Girls	-.28**	-.37**	-.39**
	B + G	-.20*	-.48**	-.38**
Conscientiousness	Boys	-.01	-.40**	-.21
	Girls	-.40**	-.24*	-.45**
	B + G	-.29**	-.36**	-.39**

* $p < .05$ ** $p < .01$

Globally, speaking about boys and girls simultaneously, it is revealed that School Neuroticism is saturated in the following facets: Anxiety (.41), Angry Hostility (.36), Depression (.47), Self-Consciousness (.32) and Vulnerability (.40) from Neuroticism; with Positive Emotions (-.20) from Extraversion; with Values (-.33) from Openness; with Straightforwardness (-.32) and Compliance (-.23) from Agreeableness; and with Dutifulness (-.25), Achievement Striving (-.22) and Self-Discipline (.43) from Conscientiousness. The factorial definition for Rebelliousness includes Anxiety (-.31), and Self-Consciousness (-.29) from Neuroticism; Assertiveness (.32) and Excitement-Seeking (.28) from Extraversion; Aesthetics (-.24) and Actions (.23) from Openness; Trust (-.20), Straightforwardness (-.51), Altruism (-.33), Compliance (-.37), Modesty (-.24) and Tender-mindedness (-.23) from Agreeableness; Order (-.30), Dutifulness (-.43), Achievement Striving (-.25) and Self-Discipline (-.37) from Conscientiousness. School Neuroticism seems to be more clearly defined by only 12 NEO PI-R facets, while Rebelliousness is defined by 16 facets.

For both SIQ dimensions, there were conceived predictive hierarchical models which included blocks of factors of each NEO PI-R super-factor, at every step of analysis, eliminating the redundant dimensions to increase the force of prediction. For School Neuroticism there were included in model 11 out of the facets previously enumerated which saturate this factor. Thus, multiple correlation R increases from the initial value of .564 to .673, which contributes with 13 percentages to improving criterion prediction which reaches from 32% to 45%. For Rebelliousness there were kept 14 facets in which it is saturated, multiple correlation R increasing from the initial value of .564 to .743. This contributes with 23 percentages to improving criterion prediction which reaches from 32% to 55%.

4. Discussion and conclusions

SIQ validation study offers a clearly factorial image mainly for School Neuroticism, strongly saturated in various degrees by all the facets of NEO PI-R Neuroticism. In contrast with what Strelau (2000) made reference to, namely the equivocal link between Neuroticism factor from Eysenck's PEN model and educational achievement, the homonymous construct from SIQ shows a more obvious link with this variable. On the other side, Rebelliousness is a construct substantiated on the combined contribution of some facets from Extraversion (high levels of Activity, Excitement-Seeking and Positive Emotions) and on the low levels of several facets from Agreeableness and Conscientiousness.

If School Neuroticism explains the symptoms of academic stress better, Rebelliousness explains well the boys' chronic school underachievement through bigger levels of aggressiveness (passive or manifested), insubordination and victimization of peers (Erath et al. 2007; Boenke, 2008), high need of revenge (Reiss, 2007) or deviant behaviours (consumption of tobacco, alcohol and drugs, Bryant et al., 2000). This opens the way to practical

utilization of SIQ in the area of school failure and of its associated issues (dropout, behavioural troubles, adolescence addictions). As both School Neuroticism and Rebelliousness can be connected to emotional competence (Bohnert et al. 2003), the simultaneous use and reciprocal validation of this instrument with the ones designed to assessing emotional intelligence seems to be the best type of a next approach.

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